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NEPHRORRHAPHY FOR FLOATING KIDNEY.

BY

JOHN S. MILLER, M.D.,
OF PHILADELPHIA.

REPRINTED FROM THE TRANSACTIONS OF
THE PHILADELPHIA COUNTY MEDICAL SOCIETY,
MARCH 11, 1891.



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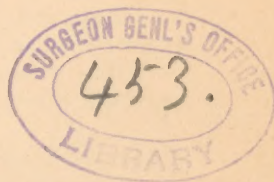
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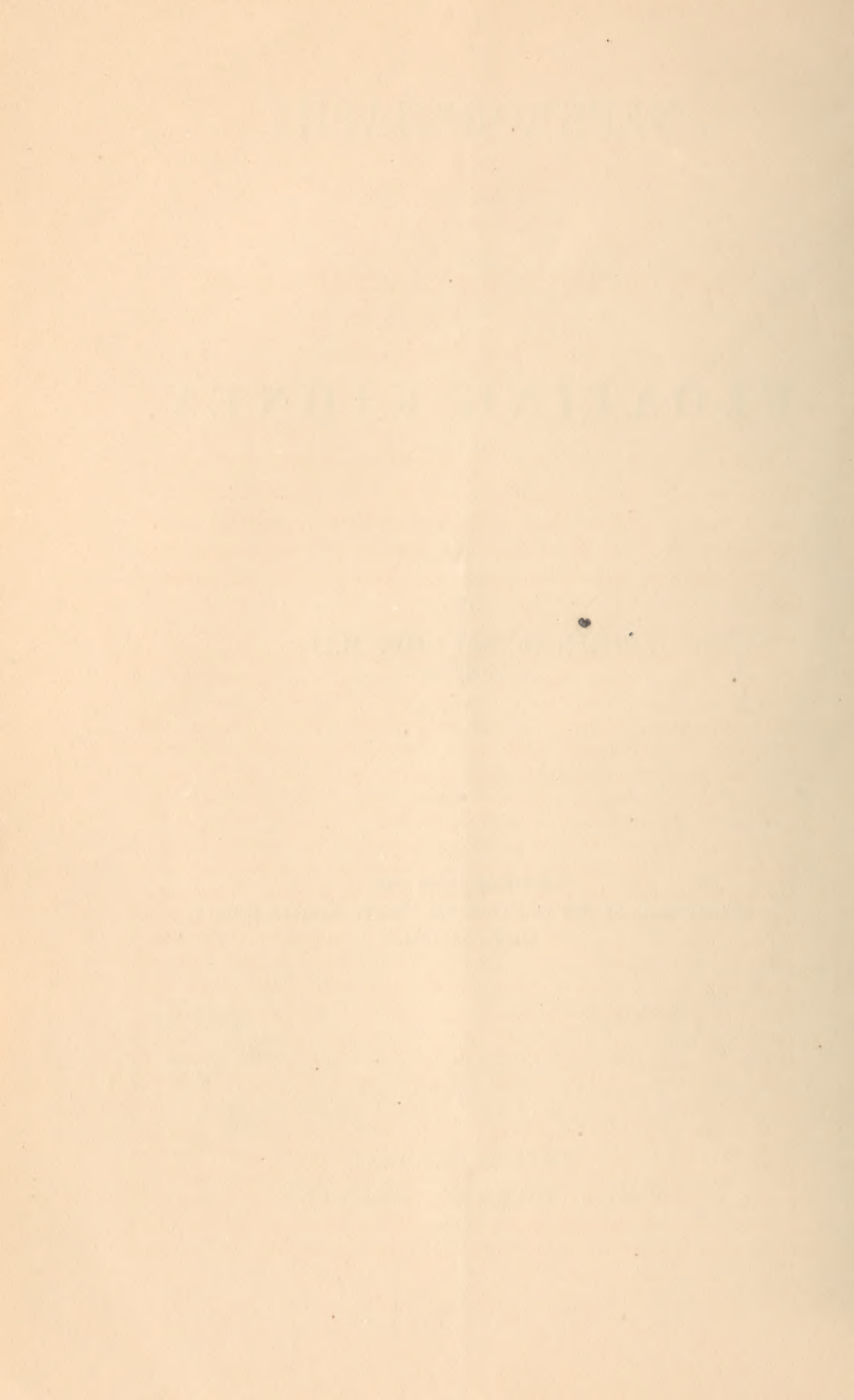
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PHILADELPHIA:

WM. J. DORNAN, PRINTER.

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NEPHRORRHAPHY FOR FLOATING KIDNEY.

By JOHN S. MILLER, M.D.

NEPHRORRHAPHY is now recognized as a justifiable surgical procedure for the repair of floating or movable kidney; at the same time this operation has not been performed sufficiently often to furnish complete statistics as to its value as a permanent remedial procedure.

The following case, therefore, is offered largely for its statistical value:

Mrs. A., American, aged thirty-two. Has had two living children and one miscarriage. Until three years ago she enjoyed excellent health. At that time she began complaining of severe pain in the back, mterorrhagia, and other attendant symptoms of ovarian trouble. This condition lasted until the 20th of August, 1890, when both ovaries were removed at the Woman's Hospital in this city. She was relieved of many of the ovarian symptoms, and particularly the severe hemorrhages. The pain in the back and in the right lumbar region, however, still continued, and gradually became more severe. Soon after her discharge from the hospital she complained of abdominal dragging pains, a sensation of something pulling or moving about in the abdomen; particularly was this noticeable when assuming the erect posture, or after unusual exertion. She was unable to lie on her right side or turn in bed without incurring excessive pain; the erect position affording most relief. For days the secretion of urine was very scant, coincident with which severe colicky pains were present in the right lumbar and right epigastric regions. The urine at this time was not examined, although the patient complained of smarting pains on voiding it. Her suffering at this time was so extreme that she frequently wished for death. Various pads and mechanical appliances were used without any remedial effect.

About the 1st of October, during a severe paroxysm of pain, the patient's husband, while rubbing her abdomen, discovered a rounded mass about the size of an orange on her right side. I was then consulted in the case for the first time, and elicited the above previous history. On careful examination I found a tumor about two inches to the right of the umbilicus, the shape and size being suggestive of a kidney which was very movable, and changed

its position with the movements of the patient. When she lay on her right side, the mass moved freely past the median line; on her standing erect it dropped about three or four inches. Palpation of the tumor produced exquisite pain and nausea. The examination was facilitated by the emaciated condition of the patient, and the lax condition of the abdominal walls.

The diagnosis of floating kidney was then made by exclusion. Both ovaries and tubes having been removed, a cystic condition of these organs was excluded. The absence of icterus, the normal condition of the stools, the shape and mobility of the mass, the extreme tenderness, and the character of the pain produced on pressure of the tumor, precluded the possibility of distended gall-bladder. The fundus of the extended gall-bladder is often freely movable in a lateral direction, and can be pushed across the left of the middle line. This condition was not present. Mesenteric tumor, or malignant disease of any of the abdominal organs, was not tenable, by reason of the absence of cachexia and other recognizable diagnostic signs. At this time the urine was carefully examined and found normal. It was then assumed that the kidney was in a healthy condition, and nephrorrhaphy was determined upon.

OPERATION.—On October 8th the patient was etherized, and placed in the modified Sims's position with a small firm pad placed under the left side. A lumbar incision about four and a half inches in length was made on the right side parallel with and three-quarters of an inch below the last rib. The muscles were divided in layers, and the wound widely separated by suitable retractors. At the suggestion of Professor Keen, the ileo-hypogastric nerve was divided, as it seemed to interfere with the manipulation of the kidney, but at the time I misunderstood him, and supposing that he merely suggested the division of the nerve for working convenience, I did not resect the nerve for the purpose and in the manner first spoken of by him in his exhaustive article on "Nephrorrhaphy" in the *Annals of Surgery*, Aug., 1890, in which he says:

"One source of discomfort, however, I have found very marked in two cases, and Weir has alluded to the same trouble. The incision crossed the path of the ileo-hypogastric nerve, and in the case alluded to the patients complained of a great deal of pain in the hip and groin of the corresponding side, which I presume was due to the injury of the nerve. As the nerve is entirely one of sensation, if I again found it in my path, and exposed to probable injury, I should divide it and exsect two or three inches. The local anæsthesia which would follow, I believe is of no importance, but the pain which sometimes follows is a serious inconvenience to those in whom it has existed."

To continue: The cut ends of the nerve were pushed aside. The peri-renal fat was torn through with the fingers, when the absence of the kidney from its normal position at once confirmed the diagnosis. Great care was observed not to open the peritoneal sac. The tumor was found on the left side beyond the median line.

By manipulation through the abdominal walls the kidney was, with some difficulty, made to move up under the diaphragm, and readily assumed its normal position. It was then seized by volsella forceps, and dragged opposite the incision. The excessive peri-renal fat was trimmed away so as to

bring the kidney in apposition with the deep lumbar fascia and muscles, hoping thereby to secure firmer union. A curved needle, armed with No. 10 black silk, was then passed through the deep muscular structures into the substance of the kidney, and brought out on the opposite side of the incision; a second such stitch was then passed two inches below. The cut ends of the ileo-hypogastric nerve were then united by a single catgut suture. The amount of manipulation was deemed sufficient to promote inflammatory adhesion without other mechanical irritation of the capsule. After being thoroughly flushed with boiled water, these deep stitches were tied and the ends brought out at the upper and lower angles of the wound. The different muscular layers were then united in tiers with catgut sutures. Superficial stitches were introduced along with a small drainage-tube, and the wound was dressed with bichloride gauze. Her temperature at no time rose above $99\frac{1}{2}^{\circ}$. The pain resulting from the division of the nerve and the suturing of the kidney was so great that hypodermic administrations of morphia were deemed necessary in large and frequent doses. The pain continued for forty-eight hours.

Twenty-four hours after the operation I made a chemical and microscopical examination of the urine, and determined the presence of blood in considerable quantity. On the following day the blood was absent from the urine. The patient was now able to assume the recumbent position without the pain and inconvenience which she had experienced prior to the operation.

Without the aid of purgatives the bowels were moved on the third day after the operation, and the stool was found to be normal in both color and consistency. The patient was kept on light nourishing diet, and on her back for four weeks. The wound healed by first intention, the dressing being changed but once during the entire treatment. The deep silk ligatures came away during the latter part of the second week and no sinuses resulted.

On the final removal of the dressings, no tumor nor sensitive spot could be found in the entire abdomen. The patient is now (nearly six months after the operation) in perfect health, has gained forty-five pounds in weight, and can attend to her household duties.

That the subject of the method of fixation of floating kidney is still unsettled is demonstrated by the various methods proposed. Some authorities simply pass the ligatures through the peri-renal fat and hope thus to secure the organ. Others scarify the capsule and pass the ligatures through the capsule, and claim good results from this procedure. The most advanced, and, from a statistical basis, the most reliable method, is that of passing the sutures through the cortical portion of the kidney.

Catgut would be the ideal ligature if trustworthy; but not only is there the danger of sepsis from an imperfectly prepared ligature, but also from its unreliability as to the time of absorption. If absorbed before firm union has taken place the operation is futile, and it is in the first two weeks that the most failures occur. Silk, properly prepared,

is undoubtedly the best material for this purpose, and possibly such a non-absorbable material might, by its presence, provoke a most desirable irritation which would favor thorough adhesion.

In reply to a communication as to the frequency of floating kidney found during autopsies, Dr. Formad writes the following:

"Floating kidney is certainly quite a common thing in women. A certain degree of looseness or mobility of the right kidney in woman is constant. I have, from observations upon a couple of thousands of autopsies on *woman*, found that the floating kidney is only a higher degree of that normal mobility of the right kidney peculiar to women. I have never noticed the right kidney so firmly fixed to its position as is the left. In the *male* I noticed the left kidney nearly floating on a few occasions (never the right)."

DISCUSSION.

DR. W. W. KEEN: I was happy to be present when Dr. Miller did this operation, and I am still more pleased to hear of the admirable results. The facts that she has been entirely free from pain and that she has gained health and strength, and forty-five pounds in weight, are admirable testimony to the usefulness of this procedure.

Within a week I have seen a patient on whom I did a nephrorrhaphy fifteen months ago. Her condition has much improved since the operation, although she has not gained in weight as much as the patient of Dr. Miller. Three weeks ago I received a letter from a patient on whom I did a nephrorrhaphy in the Jefferson College clinic just one year from the day she wrote me. She wrote wishing to thank me earnestly for the great benefit she had received. A third case, that of a physician, whose case I reported to the American Surgical Association one year ago, I have heard from recently. In this case the patient had lost much flesh, and had large quantities of pus and blood in the urine. At the operation nothing was found but the floating kidney to account for the condition. This patient is now entirely well. A fourth case I operated on nearly three years ago in the Woman's Hospital clinic. I heard from her not long since, and she was remarkably well, and had regained entirely her health. This is a report of the four cases in which I have done nephrorrhaphy. Not only has there been no failure, but, on the contrary, the operation has been a remarkable success, after a period long enough to insure us, I think, of its permanence.

In regard to fixation of the organ I have not adopted the method which Dr. Miller has used, of passing two deep stitches, which were subsequently removed. I have invariably used silk and buried the sutures, employing three or four both through the anterior and through the posterior lip of the incision, passing the stitches directly through the substance of the kidney. Dr. Miller's result seems, however, so far as a single case can, to justify the means employed. At the same time I would trust sutures that were left for

an indefinite period rather more than sutures left only two weeks. I have thus far seen no reason to regret leaving the sutures.

In regard to division of the nerve, I have in two cases found excessive pain in the right hip and right groin, the consequence, apparently, of the slight unavoidable injury to the nerve in the necessary manipulation of the operation. In one of these cases the nerve did not seem to have been injured, although it was in plain view. In another case I should try excision of two or three inches of the nerve, and see if that would not prevent the severe pain.

DR. JOHN B. ROBERTS: I have had perhaps half-a-dozen cases referred to me in the last five years in which the question of nephrorrhaphy was considered. I must say, that in all the cases that I have seen, with, perhaps, the exception of two, it has seemed to me that there were so many other conditions which possibly added to the discomfort of the patient that I could not make up my mind that the mobility of the kidney was the cause of the difficulty. I think that we should make a distinction between a merely movable kidney and true floating kidney, where the kidney makes excursions throughout the abdomen in various directions. Some months ago I saw at the Woman's Hospital a case which had been operated on some eight or ten months ago by Dr. Dennis, the well-known surgeon of New York, in which, however, the kidney was movable at the time I saw it. I have not found out whether that was a case in which sutures were employed, or whether the surgeon was satisfied with simply irritating the surface of the kidney. In that case we determined to wait for a while and see if the symptoms disappeared under non-operative treatment. In the meantime the patient disappeared.

Day before yesterday I saw a patient on whom I had declined to operate in September because there were so many other intestinal and nervous symptoms that it did not seem to me that the kidney difficulty was with the one which was producing the annoyance. That patient still has discomfort, and it is possible that in the course of a few months I shall do a nephrorrhaphy. I was interested in one case in which abdominal section was done by Dr. Fullerton for pelvic trouble. The patient had a history of floating kidney, and with our hands in the abdomen the organ could be felt floating among the intestines. One other case which might have required a nephrorrhaphy is that of a boy whom I saw a number of years ago with Dr. O'Hara. He had paroxysms of suppression of the urine with great pain, and the appearance of a tumor in the left hypochondrium. The diagnosis was floating kidney, probably congenital, and that the ureter occasionally became twisted. I believe that the great pain was due to the distention of the pelvis of the kidney with urine, and that this led to the appearance of a tumor. I recommended a retaining apparatus, and suggested that subsequently we might consider the propriety of nephrorrhaphy. Dr. O'Hara told me not long ago that the boy had now very few attacks, and was in sufficiently good health to put aside the thought of operation. In such a case, if the condition continues, it would be proper to perform nephrorrhaphy. In the majority of women with movable kidney, however, unless true floating kidney, there are usually so many other causes of ill-health that it is difficult to decide as to the necessity of operation unless you can follow the patient for a few months.

Perhaps I am a little over-cautious, but I do not like to operate until I am sure that I am operating on the right organ. The operation is, however, certainly one of very slight risk.

DR. JOHN B. DEEVER: The operation of nephrorrhaphy is now a well-recognized procedure. I would say that it is not my experience to have silk ligatures come away. Without criticising the Doctor's work, I think the reason the sutures came away was that there was faulty asepsis. I believe the success of the operation depends largely upon the manner in which the stitches are introduced into the kidney; they should be passed through the cortical substance. I recall a case which occurred in the early part of the history of the surgery of the kidney where the stitches were passed through the capsule and attached to the muscles. The kidney again became displaced, and the patient insisted upon its removal. The operation of nephrectomy was done with success. In my judgment it is not sufficient to simply scarify, or only go so far as to take up the peri-renal fat. I would prefer aseptic silk to catgut. Improperly prepared catgut is often the source of septic poisoning of wounds.

I do not know whether or not Dr. Miller brought out in his paper the question of a meso-nephron. This has always interested me. I have never come across this reflection of the peritoneum in the dissecting-room. I have no doubt, however, that it does exist; but it is rare to find the peritoneum carried so far anterior to the kidney as to constitute a meso-nephron in the sense that the peritoneum which holds the intestine constitutes the mesentery. I have dissected a case of floating kidney, but failed to find a meso-nephron.

DR. DE FOREST WILLARD: The sutures are the essential element in holding the kidney in position. It is a question, however, whether carrying the sutures through the substance of the kidney really acts better than carrying them through the capsule, as the pressure of the suture upon the soft substance of the kidney quickly cuts through, so that it is really the capsule that is the retaining structure. If it should be proven that the introduction of the needle and suture through the substance of the organ does incline to subsequent nephritis, we can fall back very confidently upon the capsule as the retaining power.

DR. ROBERTS: It would be interesting to hear from Dr. Fullerton the condition of the patient at the time she was in the Woman's Hospital.

DR. FULLERTON: The patient came into the hospital for uterine hemorrhage, supposed to be due to an imperfect abortion. She had been bleeding profusely for four weeks. On examination masses were found on each side of the uterus, which were extremely tender. The diagnosis was made that the patient was suffering from pelvic peritonitis. She was in the hospital for several days before any operation was attempted. Curetting, which had at first been thought of, of course was not done under the circumstances. Abdominal section was resorted to, and a hæmatosalpinx was found on one side (the mass being about the size of a hen's-egg), and a hydrosalpinx on the other. It was thought probable that there was an extra-uterine gestation. The patient made a good recovery from the operation. Before she left the hospital there were some symptoms of renal trouble, but it was not easy to make an examination on account of the thickness of the abdominal walls. We did find a mass in the abdomen, I believe, but I do not remember that we actually diagnosed floating kidney.

